



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,132	01/12/2001	Jeffrey B. Hoke	4590/4591A(CIP)	8892

7590

02/21/2003

Chief Patent Counsel
Engelhard Corporation
101 Wood Avenue
P.O. Box 770
Iselin, NJ 08830

EXAMINER

VANOY, TIMOTHY C

ART UNIT

PAPER NUMBER

1754

14

DATE MAILED: 02/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09-758,132

Applicant(s)

HÖKE et al.

Examiner

VANDY

Group Art Unit

1754

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

THE AMENDMENT JAN. 2 2003

☒ Responsive to communication(s) filed on

☒ This action is FINAL.

- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-4 AND 6-8

is/are pending in the application.

Of the above claim(s)

is/are withdrawn from consideration.

☐ Claim(s)

is/are allowed.

☒ Claim(s) 1-4 AND 6-8

is/are rejected.

☐ Claim(s)

is/are objected to.

☐ Claim(s)

are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Art Unit: 1754

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having "ordinary skill in the art" has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. The Applicants are advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for

the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 6-8 are again rejected under 35 USC 103(a) as being unpatentable over the English translation DE 40 07 965 A1 in view of U. S. Pat. 4,673,594.

The English translation of DE-965 describes what appears to be at least an obvious variation of the same automobile radiator (i. e. the "substrate" of Applicants' claims 1, 3 and 8) coated with a mixture of copper oxides and manganese oxides catalyst particles (i. e. the Applicants' "catalyst" of Applicants' claims 1, 2 and 6) by using a "heat resistant binder" (i. e. corresponding to the "second material" of Applicants' claim 1) to adhere this mixture of copper oxide and manganese oxide particles onto the surface of the radiator. Please see pgs. 2 and 3 and claims 1 and 2 in the English translation of DE-965.

The difference between the Applicants' claims and DE-965 is that Applicants' claim 1 sets forth that the "second material" may be a clay, whereas pg. 2 4th full paragraph in the English translation of DE-965 fairly suggests that a "heat-resistant binder" was used to adhere the catalyst to the surface of the radiator but does not identify what this "heat-resistant binder" is.

U. S. Pat. 4,673,594 is drawn to the same art of adhering compositions onto surfaces by spraying a mixture containing the composition and a binder onto the surface (please compare Fig. 1 illustrated in U. S. Pat.-594 to Fig. A illustrated in the DE-965 and also note the disclosure set forth in the "Field of the Invention" in col. 1 in U. S. Pat.-594). While the process of U. S. Pat.-594 uses an aluminum phosphate liquid as the binder (please see claim 1 in U. S. Pat.-594), the comment set forth in col. 2 lns. 55-57: "A

Art Unit: 1754

temperature resistant clay is added to the binder to produce the tacky characteristic.

Preferably, the clay is a montmorillonite clay. . . " fairly suggests to one skilled in this art that clay, especially montmorillonite clay, either *is* or *may be used* as the "heat-resistant binder" mentioned on pg. 2 4th full paragraph in the English translation of DE-965.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made *to utilize* the clay mentioned in col. 2 Ins. 55-57 in U. S. Pat.-594 as *the* "heat-resistant binder" mentioned on pg. 2 4th full paragraph in the English translation of DE-965, in the manner to arrive at the invention of (at least) Applicants' claims 1 and 5, *because* the courts have already determined that such selection of a known material (in this case, the "clay" mentioned in col. 2 Ins. 55-57 in U. S. Pat.-594 and in (at least) Applicants' claims 1 and 5) based on its suitability for its intended use (in this case, its use would be the "heat-resistant binder" set forth on pg. 2 4th full paragraph in the English translation of DE-965 - as suggested in col. 2 Ins. 55-57 in U. S. Pat.-594) supports a *prima facie* obviousness determination: please see the discussion of the *Sinclair & Carroll Co. vs. Interchemical Corp.* 325 U. S. 327, 65 USPQ 297 (1945) court decision set forth in section 2144.07 in the MPEP (8th ed.) for further details. Note that the "temperature resistant" descriptor of clay set forth in col. 2 In. 56 in US-594 is submitted to meet the "heat-resistant" criteria for the binder set forth on pg. 2 4th full paragraph in DE-965.

The difference between the Applicants' claims and DE-965 and US-594 is that Applicants' claim 7 calls for the use of *attapulgate* clay, whereas "clay" is generically referred to col. 2 In. 56 in US-594, *however* it is submitted that this difference would have

Art Unit: 1754

been obvious to one of ordinary skill in the art at the time the invention was made *because* the broad disclosure of the genus of "clays" mentioned in col. 2 Ins. 56 in US-594 is submitted to fairly suggest the utility of *all* clays - including the particular attapulgite species mentioned in Applicants' claim 7.

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 40 07 965 A1 in view of U. S. Pat. 4,673,594 as applied to claims 1-3 and 5-8 above, and further in view of pgs 71 and 72 in the book titled Adhesives Handbook by Shields published by Chemical Rubber Co. USA (1970) and by pgs. 25 and 26 in the book titled Adhesive Bonding, Techniques and Applications by Cagle published by McGraw-Hill Book Co. USA (1968).

The difference between the applicants' claims and DE 40 07 965 A1 and U. S. Pat. 4,673,594 is that applicants' claim 4 sets forth that the 2nd material is a silicone polymer.

Pg. 25 in the Cagle book sets forth that silicones do not possess the mechanical properties to be used as structural adhesives, and pg. 26 in the Cagle book sets forth that many silicones do not possess the adhesion or tack quality level desired, and that adhesion may be promoted by the use of primers. Also, pg. 71 in the Shields book discloses that while the use of silicone polymers as adhesives has not been extensive, certain silicone polymers have been developed with sufficient adhesive properties for certain applications. On pg. 71, under the paragraph header titled *Processing Conditions* (it is disclosed that some backing materials (other than glass cloth) require

Art Unit: 1754

the use of a primer to improve adhesion. Pg. 72 in the Shields book sets forth that the cohesive strength of cured resins can be increased incorporating a filler such as *clay*.

So why would one of ordinary skill in the art incorporate silicone polymers into the "binder composition" of DE 40 07 965 A1 in the manner that would arrive at the invention of applicants' claim 4, when the Shields and Cagle books fairly suggests that the adhesive properties of silicone polymers, per se, (without the "primer" or "filler") is relatively poor?

1) Pg. 72 in the Shields book fairly teaches that adhesive properties of silicone polymer are improved when a filler, such as clay (which is not seen to be distinct from the clays of the applicants' claims or U. S. Pat. 4,673,594) is incorporated into it, thereby arriving at a silicone polymer with an improved adhesiveness, and

2) Pg. 71 in the Shields book and pg. 26 in the Cagle book discloses that silicone polymers exhibit good resistance to moisture, weathering and relatively cold temperatures, all of which would be highly desirable for a composition that would impinge atmospheric air, such as the radiator of DE 40 07 965 A1 and applicants' claim 8.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made *to modify* the process and composition resulting from the combination of DE 40 07 965 A1 and U. S. Pat. 4,673,594 *by preferentially including* the silicone polymers of the Cagle and Shield books into the "binder" of DE 40 07 965 A, in a manner arriving at the invention of at least applicants' claim 4, *because* of the expected advantage of the silicone polymer to *not only* synergistically promote the

Art Unit: 1754

adhesion of the catalyst or sorbent to the radiator, especially when it is used in conjunction with clay, *but also to impart excellent resistance of the catalyst or sorbent-coated radiator against weathering, moisture and relatively low temperatures - which are, obviously, highly desirable characteristics for an automobile radiator impinging atmospheric air.*

Response to Arguments

The Applicants' arguments submitted in their amendment mailed on Jan. 2, 2003 (paper no. 13) have been considered, but are not persuasive.

a) *The applicants argue that one skilled in the art would not use the clays of U. S. Pat. 4,673,594 for the binder of DE 40 07 965 A1 because the tacky characteristics of the clay of U. S. Pat. 4,673,594 (col. 2 Ins. 55-57 in U. S. Pat. 4,673,594) would cause debris from the air or road to adhere to the radiator, thereby impeding air flow through the radiator and diminishing its cooling efficiency.*

The argument is defective because it does not consider that once the substrate coated with the clay-containing material is dried at elevated temperatures (please see col. 5 Ins. 30-38 in U. S. Pat. 4,673,594 and also expected to inherently occur in the production process of DE 40 07 965 A1), it would reasonably be expected to adhere the catalyst or sorbent onto the radiator while losing its stickiness or tackiness, consistent with the discussion of the *Ex parte Levengood* 28 USPQ2d 1300 (Bd. Pat. App. & Interf. 1993) decision set forth in section 2144 in the MPEP (8th ed.). This may be illustratively shown by the manufacture of simple clay pottery and clay crockery. While the wet, clay-

Art Unit: 1754

containing starting material for the pottery or crockery may very well have some "stickiness" or "tackiness" characteristics attributed to the wet clay, the dried product (i. e. the pot, the plate, etc.) loses that "stickiness" or "tackiness" attributed to the moist clay. The logic of the applicants' argument would have flowers, food, etc. literally remaining "stuck" to the product pot or plate due to the adhesiveness of the clay within the pot or plate, but everyday observation is evidence to the contrary.

U. S. Pat. 6,517,899 B1, disclosing a coated radiator, is made of record.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1754

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 703-308-2540. The examiner can normally be reached on 8 hr. days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached at 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Timothy Vanoy/tv


Feb. 12, 2003



Timothy Vanoy

Patent Examiner

Art Unit 1754



Stanley Silverman
Supervisor, Patent Examiner
Technology Center 1700